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THE GENUS *NIDICOLA*
(HEMIPTERA: ANTHOCORIDAE)

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Some twenty years ago, Harris and Drake erected the genus *Nidicola* in the subfamily Lyctocorinae to hold a new species, *N. marginata*, which occurs in a number of dissimilar habitats in Arizona, California, and New Mexico. Until now, the genus has remained monotypic.

The present paper describes four new species of anthrocorids which were intercepted at ports-of-entry in plants being imported into the United States. The plants were grown in Mexico and Guatemala.

The members of the genus live in different kinds of situations, such as nests of wood rats, caves frequented by bats, grain bins, and dumpage-heaps of decaying fruit refuse. On numerous occasions, both adults and nymphs have been intercepted in interstate and international shipments of bulbs, cut flowers, and nursery stock. Like members of other genera of the family, the species of *Nidicola* are predaceous and often referred to as "little pirates."

Pterygopolymorphism in the same species is common and apparently shared by all. The variformity of alar development within a species shows a high degree of variation, both in macroptery and brachyptery, and especially in the development of the hemelytral membrane. The hind pair of wings, although usually present and functional in macroptery, are at times much reduced or even lacking; all such long-winged individuals are thus flightless. In brachyptery, the hind wings are always greatly reduced or even completely wanting. There is little, if any, association in sex and wing development. Omitting genital structures, both sexes are about the same size, simi-



FIG. 1. *Nidicola marginata* Harris and Drake.

larly colored, and have general likenesses. The forewings are flat, lie in a horizontal state with membranes slightly overlapping each other, and may or may not completely cover the abdomen in a resting position. Total aptery is unknown in the genus.

All structural measurements were made under a stereoscopic microscope with an eyepiece micrometer divided in 100 units and recorded in microunits (80 units equal 1 millimeter). The dimensions of the body are entered in millimeters.

The authors are very grateful to Miss Lisa Biganzoli, Wash-

ington, D. C., for the fine illustrations. Adults of all species of the genus plus a fourth-instar nymph of one species are illustrated. The holotypes of the five members of the genus are lodged in the U. S. National Museum.

Genus *Nidicola* Harris and Drake

Nidicola Harris and Drake 1941, Iowa State College J. Sci., 15 (3): 343.

This curious and little-known genus comprises an assemblage of five homogeneous species, four of which are described as new below. Although the species are very similar to one another in outward appearance, each possesses structural features singular to its kind. The genus is known only from the southwestern United States, Mexico, and Central America.

The structural peculiarities include: small size, oblong or obovate form, depressed upper surface, more or less widely explanate lateral margins of pronotum, narrow embolium, cuneus clearly set off by a cuneal fracture, and by the shape and position of ostiole and ostiolar canal of the metathoracic scent glands on the evaporatorium of each metapleuron (Fig. 5). Other useful characteristics include presence of hamus in hind wings, large scutellum, and polymorphic wings. The antennae are long, each with segments I and II thickened, and III and IV thin and beset with long, outwardly projecting hairs. The legs are isomorphic, femora not much swollen, tarsi three-segmented. The claws are paired and apical. The rostrum is long, extending backward between or much beyond middle coxae in repose; it is apparently four-segmented, although the basal segment is greatly reduced or obsolete.

The membrane of the forewings varies greatly in size with veins fairly distinct or obsolete. Alarypolymorphism is common. Male genital segments are asymmetrical with paramere situated on left side in all specimens of the species we have studied (Fig. 5a, c).

In the nymphal stage, three pairs of scent gland openings are plainly visible on the dorsal surface of the abdomen. These are found (Fig. 5f) on tergites III, IV, and V, each pair of openings being connected by a shallow, transverse channel.

Type species: Nidicola marginata Harris and Drake.

This genus is readily distinguishable from other lyctocorine genera by the outward appearance or general aspect, explanate lateral margins of the pronotum, and location of ostiole and ostiolar canal on each metapleuron (Fig. 5b).

Although all species are small and similar in habitus, they can be readily separated from one another by the illustrations and taxonomic structures used in the key. All species are figured. The dark fuscous markings on the hemelytra are inconsistent within a species and are not of much specific value.

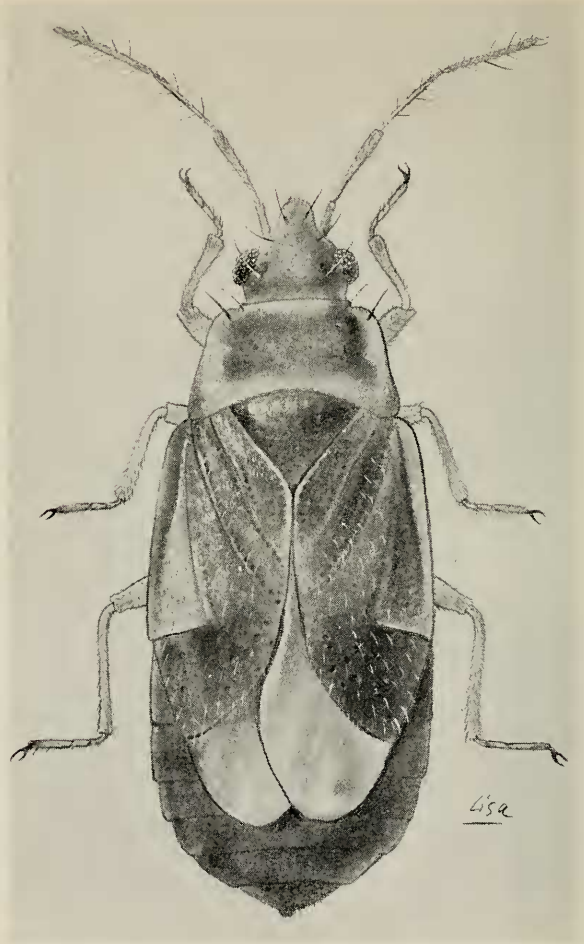


FIG. 2. *Nidicola mitra*, n. sp.

KEY TO SPECIES OF GENUS *Nidicola*

1. Veins of forewing neither elevated nor conspicuously outlined with punctures (Figs. 1, 2) 2
Veins of forewing distinctly elevated and conspicuously outlined on sides with rows of punctures (Figs. 3, 4, 5*d, e*) 3
2. Anterolateral margins of pronotum prominent, extending forward beyond the front edge of the collar; head and thorax clothed with very short hairs, without long erect hairs, hemelytra finely

- punctured; broadly obovate species (Fig. 1)
 *N. marginata* Harris and Drake
- Anterolateral margins of pronotum not prominent nor extending forward beyond the front edge of the collar; head and thorax with prominent long erect hairs, hemelytra more coarsely punctured; smaller oblong species (Fig. 2) *N. mitra*, n. sp.
3. Anterolateral margins of pronotum project forward beyond front edge of collar; head, pronotum and especially the hemelytra with conspicuous, long, semierect hairs; median cell of corium devoid of punctures except for single rows outlining veins --- 4
- Anterolateral margins of pronotum do not or only barely project anteriorly beyond front edge of collar; head, pronotum and hemelytra with much shorter hairs; median cell of corium with scattered punctures, especially near apex, in addition to the rows that set off the side limits of the veins (Fig. 3) --- *N. engys*, n. sp.
4. Small, slender, oblong; outer margins of pronotum narrowly explanate, each side not much wider than that of pronotal collar; third antennal segment only slightly longer than second (Fig. 5*d, e*) *N. aglata*, n. sp.
- Broader, obovate species; outer margins of pronotum widely explanate, each side much wider than collar, anterior margin extending forward slightly beyond front edge of collar; third antennal segment longer than second segment (Fig. 4)
 *N. etes*, n. sp.

Nidicola marginata Harris and Drake

(Figs. 1, 5*a, b, c*)

Nidicola marginata Harris and Drake, loc. cit., p. 344.

Moderately large, obovate, brownish yellow, frequently with hemelytron becoming somewhat fuscous apically; dorsal surface clothed with short, inconspicuous hairs. Length 1.90-2.10, width (across cuneal fracture) 0.90-1.10 mm.

Head longer than transocular width (35:28), interocular space wide (19). Antennal measurements: segment I, 10; II, 18; III, 20; IV, 21. Rostrum with apex resting between hind coxae, measurements: segment II, 12; III, 24; IV, 16. Legs with femora slightly thickened.

Pronotum large, with outer margins widely explanate, extending forward on each side beyond fore margin of collar, more than twice as wide at base as median length (55:25); front lobe large, considerably swollen, feebly roughened; hind lobe much shorter, less than half as long as fore lobe, depressed, slightly rugulose. Hemelytra with veins and pits as depicted in illustration; punctures not always plainly discernible or arrayed in definite rows. Hind wings clear, shorter than fore pair. Male paramere as in illustration (Fig. 5*a, c*).

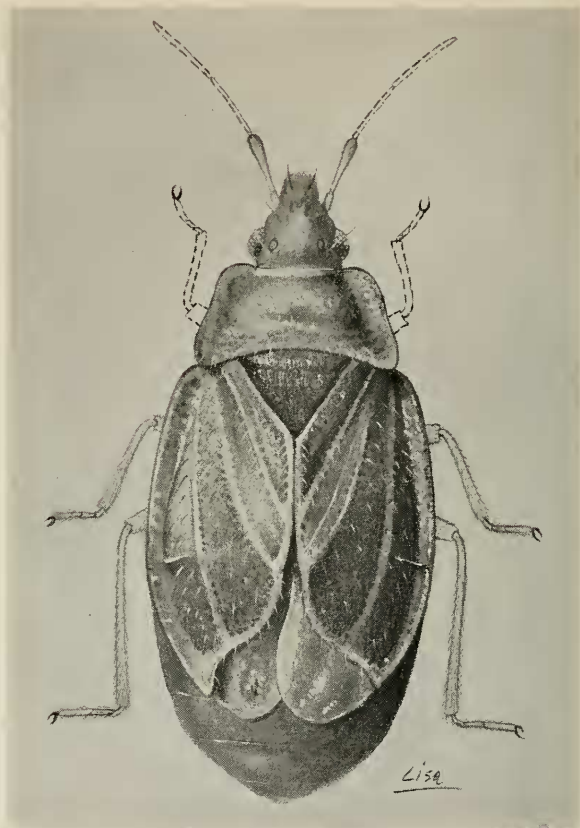


FIG. 3 *Nidicola engys*, n. sp.

Holotype, male (USNM type no. 67041) and *allotype*, female, both macropterous, Picacho Pk., Ariz., 3 Feb. 1940. *Paratypes*: Tucson, Ariz., in nests of wood rat (*Neotoma albigula*) and other paratypes from California (Indio and Palm Springs) and Arizona (Ft. Yuma and Tucson). Additional material is also at hand from the type localities, Tucson, and Mexico (Calexico, on guano of bats, and Mexicali, on bags of cotton seed meal).

This is the largest member of the genus. It is closely allied to *N. engys* and *N. etes*, which are also obovate in form and possess widely explanate margins of the pronotum. The obtusely rounded front end of the expanded pronotal margins is more prolonged anteriorly than in *N. etes*. The hairy clothing of first pair of wings is much shorter than on either of the other two species mentioned here. A female paratype from Tucson, Ariz., is figured.

***Nidicola* *etes*, new species**

(Fig. 4)

Macropterous form: Obovate, brownish with explanate margins of pronotum and cunei of hemelytra testaceous; body beneath brownish. Antennae and legs pale testaceous with femora slightly darkened. Membrane clear or slightly opaque. Length 2.00, width (across cuneal fractures) 0.95 mm.

Dorsal surface moderately and evenly clothed with moderately long, slightly reclining, yellowish hairs, those on pronotum and scutellum shorter and more or less prostrate. Length of head and transocular width subequal (28:26), interocular width much shorter (17). Antennae long, measurements: segment I, 10; II, 16; III, 20; IV, 25. Rostrum extending between intermediate coxae, measurements: II, 12; III, 14; IV, 10.

Pronotum twice as wide at base as median length (52:26); collar distinct, very narrow; explanate side margins wide, much wider than collar, produced forward beyond front margin of collar; fore lobe of pronotum large, feebly roughened, the hind lobe much shorter, flat, slightly rugulose. Femora slightly thickened. Hemelytra covering abdomen, with pits in clavi and those along corial veins mostly well-defined and arranged in definite rows along corial veins. Hind wings clear, about as long as hemelytra.

Holotype, macropterous male (USNM type no. 67035), Maiz, San Luis Potosí, Mexico, 18 May 1954, intercepted on orchid shipments at Laredo, Tex. *Allotype*, macropterous female, Tepic, Nayarit, Mexico, also on orchid transports at Nogales, Ariz., 16 Sept. 1950. *Paratype*, macropterous female, taken with allotype.

This species is nearest to *N. marginata* in general aspect and can be distinguished from it by the explanate margins being less extended forward, longer hairs on dorsal surface, and more clearly defined and serial arrangement of hemelytral punctures. The female allotype is illustrated.

***Nidicola* *aglaia*, new species**(Fig. 5*d, e*)

Macropterous form: Small, slender, oblong, reddish brown with hind pronotal lobe and most of corium dark fuscous; head above testaceous, body beneath reddish brown; dorsal surface thinly clothed with fairly long, backwardly reclining, golden hairs. Antennae pale flavous, segments III and IV thin, with numerous, long, outwardly projecting hairs. Legs flavous with femora partly fuscous. Length 1.62, width (hemelytra) 0.62 mm.

Head convex above, median length slightly shorter than transocular width (16:20), width of interocular space three-fourths of median length of head. Eyes with a few short setal hairs; ocelli situated as shown in illustration. Antennal measurements: segment I, 8; II, 14; III, 16; IV,

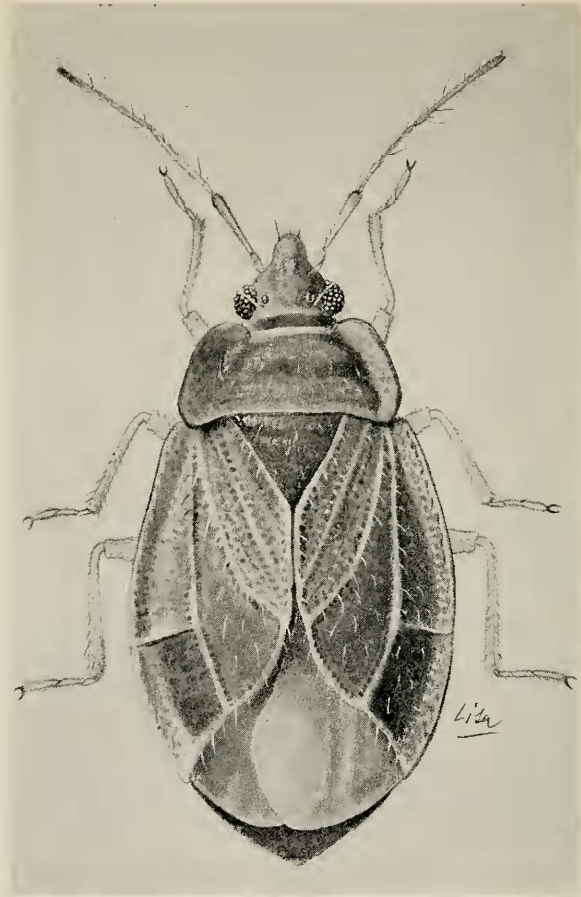


FIG. 4. *Nidicola etes*, n. sp.

20. Rostrum long, extending between hind coxae, bowed, greatly concave on inner side in repose. Measurements: segment II, 14; III, 16; IV, 20.

Pronotum slightly convexly tapering anteriorly, basal width slightly more than twice median length (46:20), with outer margins narrowly explanate, each side slightly wider than collar; front lobe large, tumid, faintly rugulose; hind lobe shorter than fore lobe, depressed, distinctly transversely rugulose, shallowly convexly excavated on hind margin. Legs with femora moderately thickened. Scutellum depressed, hairy as pronotum, triangular, median length and basal width subequal (14:15). Hemelytra each with pits clearly and sharply defined, sequentially arranged on clavus and corium in regular rows as depicted in illustration; membrane clear, veins imperceptible.

Holotype, macropterous male (USNM type no. 67038), Mexico, on orchid imports at Nogales, Ariz., 6 July 1953.

This is the smallest member of the genus. It is closely allied to *N. mitra* below, but readily separated from it by the hairy vestiture, greatly roughened hind pronotal lobe, and sharply defined hemelytral pits arranged in regular rows. The holotype is illustrated.

Nidicola mitra, new species

(Figs. 2, 5f)

Small, oblong, brownish with corium of hemelytra often becoming fuscous apically; body beneath pale brown. Legs and antennae pale testaceous. Dorsal surface clothed sparsely with pale hairs, these shorter on pronotum. Length 2.15, width (across cuneal fracture) 0.88 mm.

Head slightly longer than transocular width (32:28), interocular space wide (18). Antennal measurements: segment I, 8; II, 20; III, 19; IV, 24. Rostrum extending between hind coxae, measurements: segment II, 13; III, 28; IV, 20. Legs smooth, femora slightly thickened.

Pronotum twice as wide at base as median length (50:25); explanate margins moderately wide, a little wider than collar; frontal lobe large, swollen, twice as long as hind lobe, slightly rugulose; hind lobe short, depressed, transversely rugulose. Hemelytra with veins fairly prominent, punctures somewhat obscure, not always clearly defined, nor as long as abdomen.

Holotype, macropterous male (USNM type no. 67037), Mexico, taken on unknown species of nuts, 12 Nov. 1955, at San Antonio, Tex. *Allotype*, ♀ and 12 *paratypes*, collected on *Caladium* bulbs from Guatemala, 4 May 1950, Nogales, Ariz.; 1 *paratype*, on orchids (*Laelia*) from San Miguel de Allende, Guanajuato, Mexico, at Nogales.

Similar to *N. aglata* in form, but easily distinguished from it by having the hemelytral punctures sharply defined and arranged in regular rows as depicted in the illustration. The holotype is figured.

Nidicola engys, new species

(Fig. 3)

Obovate, brown with hemelytra testaceous-brown; body beneath brownish, dorsal surface rather thinly clothed with fairly long, suberect, yellowish hairs. Legs, rostrum, and antennae pale testaceous. Length 2.00, width (across cuneal fractures) 1.62 mm.

Head longer than transocular width (30:25), interocular space wide (18). Rostrum extending between intermediate coxae, measurements: segment II, 7; III, 13; IV, 8. Legs moderately long, smooth, femora slightly thickened.

Pronotum with basal width more than twice the median length (48:20); collar narrow; front lobe large, swollen, feebly rugulose; hind lobe much narrower than fore lobe, depressed, transversely ridged; explanate

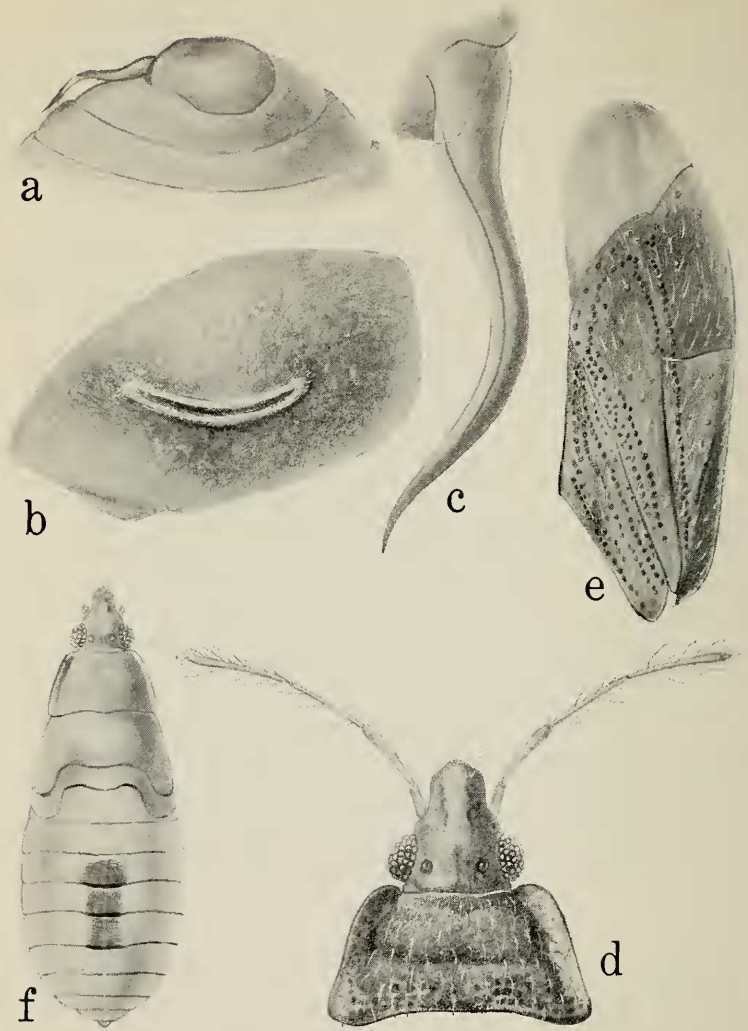


FIG. 5. *Nidicola marginata* Harris and Drake; *a*, ventral aspect of male genital segments; *b*, evaporatorium showing ostiole and ostiolar canal on left metapleuron; *c*, left male paramere. *Nidicola aglaia*, n. sp.; *d*, dorsal aspect of head, pronotum and antennae; *e*, left hemelytron. *Nidicola mitra*, n. sp.; *f*, dorsal aspect of fourth instar nymph showing 3 pairs of scent gland openings on abdominal tergites-segments III, IV, and V.

margins wide, three times as wide as collar, with obtusely rounded anterior end not produced further forward than front margin of collar. Scutellum depressed apically, wider across base than median length (26:22). Hemelytra not extended backwards over apical part of abdomen, rather thinly clothed with moderately long, reclining, yellowish hairs; punctures largely obscure; veins of corium raised; membrane small, without visible veins.

Holotype, submacropterous female (USNM type no. 67036), Alamos, Sonora, Mexico, 4 Jan. 1955, intercepted on orchids and bromeliads, Nogales, Ariz.

This lyctocorine belongs to the group of species possessing widely explanate pronotal borders, which do not extend anteriorly farther than the front edge of the collar. The holotype, which lacks forelegs and the last two antennal segments, is figured.

